Saskatchewan Agriculture, Food and Rural Revitalization

Varieties of Grain Crops 2005

Crop Production Areas

Saskatchewan's cropland has been divided into four areas based roughly on climate, vegetation and soil type. The relative yields of crop varieties tend to vary from area to area. In choosing a variety, farmers will want to consider the yields in their area and special requirements such as early maturity, disease resistance and sawfly resistance.

Area 1: Drought is a definite hazard and high winds are common. Sawfly outbreaks often occur in this area. Cereal rust may be a problem in the southeastern section.

Area 2: Drought and sawflies may be problems in the western and central sections of the area. Cereal rust may be a problem in the southeastern section.

Area 3: Drought is not as likely to be a problem in this area, particularly in the east. Cereal rust may occur in the eastern portion. The frost-free period can be fairly short in the northwestern and northeastern sections.

Area 4: Rainfall is usually adequate for crop production. However, early fall frosts and wet harvest weather are frequent problems.

Note About Dividing Lines:
The dividing lines do not represent distinct changes over a short distance. The change from one area to another is gradual.

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Symbols Used in 2005 Seed Guide:

^ Variety may not be described in 2006
— Insufficient test data to describe
Ⓟ Plant Breeders' Rights at time of printing
Ⓞ Applied for PBR protection at time of printing

Abbreviations used:
Relative maturity: VE = Very Early, E = Early, M = Medium, L = Late, VL = Very Late

Resistance: VG = Very Good, G = Good, F = Fair, P = Poor, VP = Very Poor, n/a = not applicable

Seed size: S = Small, M = Medium, L = Large

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Testing varieties in Saskatchewan

By Saskatchewan Agriculture, Food and Rural Revitalization

Regional testing of crop varieties is conducted to provide producers with information on the agronomic performance of crop varieties under differing agro-climatic conditions.

Trials are conducted using multiple small plots, uniform protocols and standard check varieties. Data is collected from as many sites as are available and analyzed to ensure that the results are within statistical norms and are not unduly affected by extreme events (i.e. severe drought, hail, insects, etc.)

Results in this publication are aggregated on a zone basis. For all crops except canola, results are reported by crop production areas (roughly corresponding to soil zones) and are aggregated over a number of years of regional and, in some cases, co-op testing.

Canola testing was coordinated by the Canola Council of Canada and its partners.Tests were conducted on a prairie-wide basis using the short-, mid- and long season zones that have been used for many years in the co-op testing system for canola. The canola table is based on data from 2004 testing.

The results of the testing are reviewed by the Saskatchewan Advisory Council on Grain Crops prior to inclusion in this publication.

Relative yield of varieties

Grain yield results from the interplay of genetic factors and non-genetic factors. Variety trials are designed to measure the differences among varieties that are due to genetic causes. It is important to minimize variability due to nongenetic factors such as soil type, nutrients, moisture, weeds, diseases, and other pests. Experimental designs using replication (repeated plantings of the varieties) and randomization (the position of the varieties within the test are assigned by chance) are then used to estimate the precision with which the genetic factors can be measured.

Yield potential of a variety is estimated by measuring the weight of grain produced per unit area.

Comparisons among varieties for yield potential involves an evaluation of both their absolute amounts of grain and their relative yield. Relative yield is the yield of one variety expressed as a percentage of a second variety.

Yields obtained in these trials are not identical to those obtained under commercial production conditions. However, the average yield for these varieties, obtained over a number of years at several locations, would remain in relatively the same ratio regardless of whether the grain yields were measured in small plots or large-scale fields. Relative yields are the best estimates of expected yield advantage in the areas indicated.

Relative Maturity

Ratings

Maturity is measured from seeding to swathing ripeness. The actual number of days to reach maturity depends on local climatic conditions and to some extent on management practices.

Some of the following tables express the relative maturity in days while others use a five category scale: VE, E, M, L, and VL (very early, early, medium, late, very late). Medium applies to the most widely grown check variety which appears at the top of each table. The limits for each category vary from crop to crop. In barley, for example, Harrington would be medium with L and E varieties plus or minus 1-2 days, and VL and VE varieties beyond these.

Comparisons

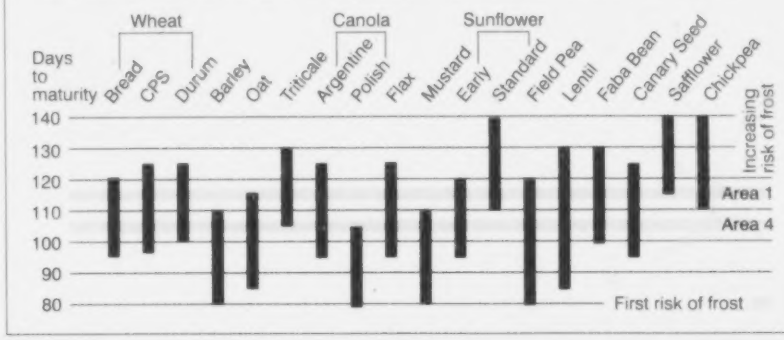
The relative maturity of varieties of different crops is important when making plans for seeding.

The table below compares the relative maturity ranges for crops grown in Saskatchewan.

Within each crop there are early and late maturing varieties. Whether a crop matures before the first killing frost depends on seeding date, management practices and environmental factors. Not all crops have a wide area of adaptation.

It is noted that climatic conditions can cause a wide variability in crop maturity.

Relative maturity ranges for spring crops grown in Saskatchewan



Plant Disease Resistance

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esistance to the most important seases in Western Canada is generally ssessed in each crop before the variety registered. The methods used to ssess resistance in each crop are fferent. In some cases, spores of the athogen are applied to plants in the reenhouse or in the field. In other cases, ssessment is based on naturally ccurring infection in the field. Each ariety is rated on a five-point scale of very oor (VP), poor (P), fair (F), good (G), very ood (VG). New varieties are not tested ide-by-side with all existing varieties. ecause of variation in disease levels rom year to year, each new variety is ssigned a rating relative to a few existing arieties that serve as disease level tandards or checks.

Varieties differ in resistance because of differences in their genetic make-up and/or differences in the genetic make-up of the pathogen that causes the disease. However, the genetic make-up of a pathogen can change over time, and overcome the resistance in a variety. In such cases, a variety with good resistance can quickly display poor resistance to a particular disease. Unfortunately, because not all varieties are tested side-by-side every year, the ratings of older varieties may be less reliable.

A number of factors can affect the level of disease symptoms observed at a given location in a given year. Environmental conditions such as moisture and temperature, the genetic make-up of both the variety and the pathogen, and the amount of the pathogen present can all affect the level of disease. Although a variety with good resistance can show disease symptoms under favourable conditions, a susceptible variety would have much more disease under the same conditions.

For example, ascochyta blight of chickpea is a very aggressive fungal disease. It can completely kill susceptible varieties within two weeks of symptoms first appearing. Chickpea varieties grown commercially in Saskatchewan to date have ascochyta blight ratings from very poor to fair. This resistance weakens as plant development nears the flowering stage. Cool, moist environmental conditions favour the disease, and if these conditions persist early in the growing season, the disease symptoms can occur much earlier than the flowering stage. This is especially true on chickpea grown outside the Brown Soil Zone (the area of best adaptation) or on heavy textured soils such as clays and clay loams.

In these conditions, varieties with ascochyta blight resistance ratings of very poor to poor do not show good resistance to ascochyta and can be defoliated, with girdled branches and dead plants. If conditions turn warm and dry, the diseased plants can re-grow from auxiliary nodes, often producing flowers and pods. However, these late pods and seeds will most likely be frozen in the first fall frost and have no commercial value.

What is Plant Breeders' Rights?

Plants Breeders' Rights provides a way to assure that companies and institutions that invest in plant breeding are able to keep reasonable control of their varieties and secure fair compensation for their efforts. This encourages additional investment in improved crop varieties for Canadian farmers.

PBR

Progress through Research

Plants Breeders' Rights for crop variety developers are comparable in many ways to patent protection in other areas. When a plant breeder develops a new variety for use in Canada, they may apply under the Plant Breeders Rights Act to obtain certain controls over the multiplication and sale of the seed of that variety. Sale, trade or any other transfer of the seed for propagation purposes is prohibited by law without;

1. Written permission of the breeder or their agent and;
2. Payment of a royalty to the breeder or their agent. Under PBR, farmers are allowed to save seed of the variety for their own use, on their own farms.

Varieties protected by Plant Breeders' Rights are identified with the PBR logo.

Further information on Plant Breeders' Rights can be obtained from the Plant Breeders' Rights Office, tel. (613) 225-2342, fax (613)228-6629.

Wheat

Main characteristics of varieties

Variety	Years Tested	Area 1	Area 2	Area 3	Area 4	Irrigation	Relative Maturity in days	Protein	Resistance To: Lodging	Shattering	Sprouting	Stem Rust	Leaf Rust	Loose Smut	Bunt	Leaf Spot	Fusarium Head Blight
Bread Wheat	**Yield as % of AC Barrie**																
AC Barrie	9	100	100	100	100	100	100	14.8	G	G	G	G	P	G	G	P	F
AC Abbey	8	98	94	95	96	98	-1	-0.8	F	G	P	G	P	F	G	P	P
AC Cadillac	7	100	103	102	101	98	-1	-0.2	F	G	F	G	G	VG	VG	P	F
AC Cora ^	8	99	97	94	95	92	-2	-0.3	F	G	F	G	VG	G	G	P	F
AC Domain ^	6	96	94	94	86	89	-2	+0.1	G	G	VG	G	G	VG	F	VP	P
AC Eatonia	7	91	94	90	83	—	0	+0.2	P	G	VG	F	P	F	G	P	—
AC Elsa	7	102	104	105	98	97	-1	-0.1	G	G	F	G	G	G	G	F	P
AC Intrepid	5	101	100	104	104	102	-3	-0.3	G	G	P	G	G	F	G	P	P
AC Splendor	9	91	92	94	92	89	-4	+0.4	F	G	F	G	G	F	G	VP	P
CDC Bounty	5	105	103	105	107	—	-1	-0.1	F	G	F	G	F	G	F	P	F
CDC Go	3	103	102	103	—	—	-1	-0.1	G	G	P	G	F	P	G	VP	F
CDC Imagine	4	96	99	102	102	—	0	-0.2	G	G	F	F	G	G	G	P	P
CDC Osler	3	97	104	104	105	—	-1	-0.3	G	G	F	G	G	G	F	—	VP
CDC Teal	7	100	102	100	97	99	-2	-0.1	G	G	P	G	G	G	F	P	VP
Harvest	5	101	100	106	98	—	-1	-0.5	VG	G	VG	G	G	G	G	P	VP
Infinity	2	105	111	110	—	—	-1	-0.1	G	G	G	G	G	G	G	F	VP
Journey	5	100	96	101	94	—	+2	+0.4	VG	G	F	G	G	F	G	F	F
Katepwa	9	97	95	93	95	89	-2	-0.5	F	G	F	G	VP	G	G	P	F
Laura ^	8	99	104	99	95	82	+1	-0.4	F	G	F	G	G	F	P	P	P
Lillian	3	106	106	101	—	—	0	-0.1	F	G	G	G	VG	F	G	P	VP
Lovitt	4	106	101	102	102	—	-1	0.0	G	G	VG	G	VG	G	F	—	P
McKenzie	5	107	106	103	96	109	-1	-0.5	F	G	G	G	VG	VP	VG	P	F
Peace	2	99	99	103	103	—	-1	-0.1	G	G	—	G	G	G	VG	—	VP
Prodigy	5	103	104	106	99	—	+1	+0.4	G	F	G	G	G	F	VG	P	VP
Superb	5	109	105	111	105	—	+3	-0.3	G	G	G	G	F	F	G	VP	P
5500HR	5	98	98	100	99	—	+1	-0.5	F	G	F	F	G	P	G	P	F
5600HR	5	99	100	100	102	—	+2	-0.5	G	G	F	F	VG	G	G	P	P
5601HR	4	92	96	96	104	—	+2	-0.1	G	G	F	G	G	P	G	P	F
5602HR	2	—	99	96	—	—	+1	+0.3	G	G	—	G	G	G	G	P	G
Canada Prairie Spring - Red Seeded*																	
AC Crystal	11	119	118	115	118	110	+3	-1.2	VG	G	P	G	P	P	VG	F	VP
AC Foremost	5	119	122	118	116	109	+2	—	VG	G	F	G	P	P	VG	P	VP
AC Taber	5	117	122	118	114	116	+4	—	VG	G	P	G	F	P	VG	F	VP
5700PR	5	114	116	119	122	115	+2	-1.3	VG	G	P	G	F	P	VG	P	VP
5701PR	4	107	108	108	122	105	+2	-0.6	G	G	P	G	VG	P	F	F	P
Canada Prairie Spring - White Seeded*																	
AC Karma ^	8	117	122	119	121	110	+2	—	G	G	P	G	P	P	VG	P	P
AC Vista	9	121	124	122	120	113	+1	-1.5	G	G	F	G	P	P	VG	P	VP
AC2000 ^	5	109	111	112	109	104	+3	-1.3	VG	G	F	F	P	F	VG	P	P
Hard White Wheat																	
Kanata ^	5	93	90	93	92	—	-2	0.0	G	G	G	F	G	F	P	P	F
Snowbird	5	101	98	103	97	—	+2	-0.6	G	G	G	G	VG	G	F	P	P
Canada Western Extra Strong*																	
Amazon ^	5	102	102	105	105	—	+2	-1.1	F	G	P	G	G	VG	F	F	P
AC Corinne	5	99	101	102	106	—	+3	-1.1	F	G	P	G	G	VG	F	P	P
AC Glenavon	5	99	102	103	107	—	+2	-1.1	F	G	P	G	G	VG	F	P	P
Glenlea ^	8	102	105	108	112	—	+2	-1.4	F	G	P	G	F	VG	F	P	P
CDC Rama	4	108	106	107	106	—	+2	-0.2	F	G	P	G	G	VG	G	P	F
CDC Walrus	3	100	105	103	—	—	+2	-0.3	F	G	F	G	G	VG	F	P	P
Burnside	3	91	91	96	—	—	+2	-0.3	F	G	P	G	G	VG	F	P	P
Durum Wheat	**Yield as % of Kyle**																
Kyle	8	100	100	100	100	100	103	13.9	P	VG	F	VG	VG	P	VG	P	VP
AC Avonlea	8	105	106	109	—	105	-1	+0.1	F	VG	F	VG	VG	P	VG	P	VP
AC Morse ^	8	104	103	109	—	111	0	-0.1	G	VG	F	VG	VG	VP	VG	VP	VP
Napoleon	6	104	106	109	—	—	-1	-0.5	F	VG	F	VG	VG	P	VG	P	VP
AC Navigator	7	106	105	98	—	—	0	-0.3	G	VG	F	VG	VG	VP	VG	VP	VP
Strongfield	3	112	114	112	—	—	0	+0.3	F	VG	F	VG	VG	VP	G	P	VP
Commander	2	117	117	108	—	—	-1	-0.3	G	VG	F	VG	VG	P	VG	P	VP

*** Includes direct and indirect comparisons with AC Barrie**

Additional Information

All varieties of common wheat are compared to **AC Barrie**.

Most of the varieties have been rated for their relative resistance to pre-harvest sprouting. Varieties with high test weight retain grade better under adverse harvest weather than those with low test weight. During wet harvest weather grades drop more rapidly due to sprouting in swathed than in standing crops.

Several new races of leaf rust capable of overcoming leaf rust resistance gene Lr 16 have multiplied rapidly. If varieties rated poor or very poor for leaf rust are sown in southeastern Saskatchewan, early seeding may minimize risk of crop losses.

Durum wheat varieties are more susceptible than CWRS varieties to Fusarium Head Blight and CPS varieties are intermediate.

All varieties have moderately good resistance to common root rot.

Seed of varieties rated poor and very poor for bunt and loose smut should be treated. Please refer to the **Seed Facts** section of this pamphlet or **Guide to Crop Protection 2005.**

Canada Western Red Spring Wheat

Seed of the new varieties **CDC Go, Infinity, Lillian, CDC Osler, Peace, and 5602HR** will not be available in 2005.

Limited quantities of seed of the new varieties **Lovitt,** and **5601HR** will be available in 2005.

AC Abbey, **AC Eatonia**, and **Lillian** have a solid stem and have some resistance to the wheat stem sawfly. **AC Abbey** has semidwarf stature and an awned head. **AC Cadillac** and **CDC Bounty** have large seed size and an exceptionally heavy test weight. **McKenzie** has an awned head and it may also be identified by a purplish stem. **CDC Imagine** is tolerant to the CLEARFIELD® herbicide ADRENALIN. **Prodigy** has an awned head and exceptionally heavy test weight. **Superb** has an awned head, and very large seeds. **Superb** has slightly shorter stature than **AC Barrie**.

Canada Prairie Spring Wheat

AC Vista and **AC2000** have higher protein content, and stronger gluten than **AC Karma**. **AC Crystal**, **5700PR** and **5701PR** have improved quality compared to **AC Foremost** and **AC Taber**.

Canada Western Extra Strong

Seed of the new varieties **Burnside** and **CDC Walrus** will not be available in 2005. Limited quantities of seed of **CDC Rama** will be available in 2005.

Canada Western Amber Durum

Seed of the new varieties **Commander** and **Strongfield** will not be available in 2005. All durum varieties are susceptible to two new races of loose smut.

All newer durum varieties have shorter stronger straw than **Kyle. Kyle** and **AC Morse** have lower pigment content in the grain than other varieties. **AC Morse** and **Napoleon** have shorter stronger straw and lower test weight than **Kyle**.

Commander and **AC Navigator** have extra strong gluten properties and semidwarf stature. They may be grown only under contract with the Canadian Wheat Board and Saskatchewan Wheat Pool.

Soft White Spring Wheat

All soft white spring wheat varieties are eligible for both domestic and export markets except **AC Andrew** which is not accepted in the domestic market. **AC Reed** and **AC Phil** are moderately resistance to shattering, powdery mildew, and common root rot, moderately susceptible to leaf and stem rust, and susceptible to common bunt. **AC Nanda** has improved resistance to common bunt, powdery mildew, and black point. It yields slightly less than **AC Reed** and **AC Phil** and is about 4 days later maturing. **Bhishaj** and **AC Andrew** have higher grain yield and mature about 2 days later than **AC Reed** and **AC Phil**. Limited quantities of seed of **AC Andrew** and **Bhishaj** will be available in 2005. Soft-white spring wheat varieties are susceptible to pre-harvest sprouting.

The Advisory Council on Grain Crops, a committee of the Saskatchewan Agricultural Services Co-ordinating Committee (SASCC), supervises, co-ordinates and reviews the collection, analysis and reporting of information in this publication.

Membership of the Advisory Council on Grain Crops consists of representatives from:

- Agriculture and Agri-Food Canada
- Saskatchewan Agriculture, Food and Rural Revitalization
- University of Saskatchewan
- Crop Development Centre
- Saskatchewan Wheat Pool
- Canadian Seed Trade Association
- Saskatchewan Seed Growers' Association
- Saskatchewan Association of Rural Municipalities
- Farmers
- Saskatchewan Irrigation Development Centre
- Representatives from Saskatchewan Seed Distributing Companies

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Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

Saskatchewan Agriculture, Food and Rural Revitalization

POOL Saskatchewan Wheat Pool

Agricore United

SeCan

CANTERRA SEEDS

Winter Wheat

Main characteristics of varieties

Variety	Years tested	Grain Yield (% CDC Clair)			Resistance to				
		Areas 1 and 2	Areas 3 and 4	Irrigation	Lodging	Winter Damage	Stem Rust	Leaf Rust	Bunt
CDC Clair	14	100	100	100	G	VG	P	P	P
AC Bellatrix	6	99	94	N/A	G	P	VP	P	G
CDC Buteo	7	97	96	110	G	VG	G	G	P
CDC Falcon	10	98	92	116	VG	F	VG	G	P
CDC Harrier	11	102	99	110	G	G	G	P	P
CDC Kestrel	14	101	100	103	G	VG	P	P	P
CDC Osprey	14	100	99	94	G	VG	P	P	P
CDC Raptor	8	99	98	113	VG	VG	VG	G	P
McClintock	7	97	96	112	G	P	VG	VG	P

Rye

Main characteristics of varieties

Variety	Years tested	Yield (% of Prima)				Maturity	Resistance to			
		Area 1	Area 2	Area 3	Area 4		Winter Damage	Shattering	Lodging	Stem Smut
Prima	15	100	100	100	100	M	VG	F	F	G
AC Rifle	15	107	94	91	—	M	VG	VG	VG	G
AC Remington	4	128	107	98	—	M	VG	VG	G	—

Additional Information:

Gazelle is the only registered variety of spring rye.

Triticale

Main characteristics of varieties

Variety	Years Tested	Yield (% of AC Certa)				Test Wt kghl^{-1}	Maturity	Resistance to				
		Area 1	Area 2	Area 3	Irrigation*			Lodging	Stem rust	Leaf rust	Bunt	Root rot
AC Certa	13	100	100	100	100	74	M	G	VG	VG	VG	G
AC Alta	13	104	105	100	109	68	L	G	VG	VG	VG	F
AC Copia	13	99	101	97	99	72	M	G	VG	VG	VG	F
Pronghorn	12	97	102	102	107	69	E	G	VG	VG	VG	F
Sandro	10	106	104	102	—	73	E	G	VG	VG	VG	G
AC Ultima	9	105	105	103	—	70	E	G	VG	VG	VG	F

* Relative Yields under irrigation are based on limited data

Additional Information

Triticale matures 1-2 days later than AC Crystal CPS wheat, therefore it should be planted as early as possible. Some cultivars of triticale will mature very late in Area 4. The seeding rate for triticale should be at least '30 percent more than that of CWRS wheat to obtain the same number of plants per square foot. Susceptiblity to fusarium head blight is at least as great in triticale as in wheat. AC Ultima has improved Hagberg Falling Number.

Winter triticale has winter hardiness equal to that of winter wheat. Pika and Bobcat are the only cultivars of winter triticale available.

Bobcat is awnletted with shorter and stronger straw.

Malting Barley

Main characteristics of varieties

Category § and variety	Years Tested	2 or 6 row	Rough or smooth awns	Yield (% of AC Metcalfe) Area 1	Area 2	Area 3	Area 4	Relative maturity rating *	Straw ‡	Resistance to Lodging	Net Blotch	Scald	Loose Smut	Other smuts	Root Rot	Stem Rust	Fusarium ~ Head Blight
Malting acceptance: Recommended																	
AC Metcalfe	11	2	R	100	100	100	100	M	N	G	F	P	VG	F	F	G	F
CDC Copeland	8	2	R	109	107	107	107	M	N	G	F	P	P	F	F	F	F+
Harrington	11	2	R	99	92	89	88	M	N	F	VP	P	P	P	F	P	F+
CDC Kendall	11	2	R	99	103	102	102	M	N	G	F	P	P	P	F	F	F
Merit	9	2	R	104	112	109	112	L	N	F	F	P	P	G	F	G	F
Stein	11	2	R	102	100	101	99	M	N	F	F	P	P	G	P	G	F
CDC Stratus	11	2	R	100	104	105	104	M	N	G	F	P	F	F	F	G	F
B1602	11	6	R	88	100	98	99	M	N	G	F	P	P	G	VG	G	VP
CDC Battleford	6	6	S	109	108	106	112	M	N	G	G	P	VP	G	F	G	P
Excel	10	6	S	101	103	104	104	M	N	VG	F	P	P	G	G	G	VP
Legacy	6	6	S	108	103	99	107	M	N	G	F	P	P	F	G	G	P
Robust	8	6	S	86	98	98	95	M	N	G	F	P	P	F	G	G	VP
CDC Sisler	10	6	S	98	99	104	104	M	N	F	P	P	P	P	F	G	F
Tradition	4	6	S	—	116	108	—	M	N	VG	F	P	P	VG	G	G	VP
Malting acceptance: Under test																	
AC Bountiful	11	2	R	101	103	105	103	M	N	G	G	P	VG	VG	F	G	F
Calder	5	2	R	—	104	106	106	M	N	F	G	P	VG	VG	F	G	F+
Newdale	6	2	R	116	111	114	111	M	N	G	F	P	P	F	F	G	F
CDC Select	7	2	R	104	103	103	103	M	N	G	F	P	F	F	F	F	P
CDC Springside	4	6	S	—	109	101	—	M	N	F	F	P	P	VG	F	G	VP
CDC Tisdale	6	6	S	106	106	99	105	M	N	G	G	P	P	G	F	G	P
CDC Yorkton	8	6	S	98	100	105	113	M	N	G	G	P	P	G	F	G	P

* Relative maturity: The relative maturity of the check, AC Metcalfe, is M (on average, 91 days from seeding to swathing ripeness)

‡ N = normal, SD = semi-dwarf.

§ These categories are established annually by the Canadian Malting Barley Technical Centre (Call 204-984-4399 for more information)

~ F+ indicates that these lines have better tolerance to those rated F but not enough to rate G (Read Seed Treatment note in Seed Facts)

Lines Under Evaluation of Malting and Brewing Quality

Small scale tests are a good measure of malting potential but are not sufficient to determine the commercial acceptability of malting varieties. Final acceptance is given only after two years of successful plant scale evaluation. Several carload lots of barley are malted and subsequently brewed. The beer is then given the ultimate test – a taste panel. This process will normally take a minimum of three years. A crop grown in 2005 will be malted in January-February, 2006. It will be brewed in May-June, 2006, aged and tasted in October-November 2006.

Additional Information

Growers are reminded that the malting and brewing industry is cautious about using new varieties.

Growers are cautioned that malting varieties, especially two rows, are very susceptible to sprouting.

CMBTC
CANADIAN MALTING BARLEY TECHNICAL CENTRE

Recommended Malting Barley Varieties 2005-06

These recommendations are based on the varieties expected to be selected by grain and malting companies for both domestic and export markets from the 2005 harvest. Seeding decisions should be based on agronomic considerations and feedback from your grain company representative, local elevator operators and malting companies. This list is published on behalf of the members of the CMBTC, and other companies that have provided their input. Varieties not listed are not recommended. The varieties are listed in descending order to the amount selected in 2004-05

Recommended Two-Row Barley Varieties

VARIETY	DOMESTIC	EXPORT	MARKET OUTLOOK
AC Metcalfe[4]	Established	Established	Stable, High Demand
CDC Kendall[1,5]	Established	Growing	Stable, Steady Demand
Harrington[4]	Established	Established	Stable Demand
CDC Copeland[4]	Growing	Growing	Increasing Demand
Stein[1]	Limited	Established	Stable, Low Demand
Merit[1,2,3,5]	Limited	Limited	Low Demand
CDC Stratus[3]	Limited	No Market	Low Demand

B1202 is being selected for limited domestic markets. CDC Select (TR153), Newdale (TR258), Calder (TR262), and AC Bountiful (TR243) are not yet being grown for the commercial market. Production is limited to quantities required for testing and market development.

Recommended Six-Row Barley Varieties

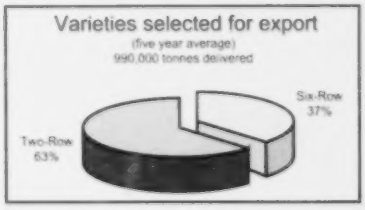
VARIETY	DOMESTIC	EXPORT	MARKET OUTLOOK
Excel	Established	Established	Stable Demand
Legacy[1,2,3,5]	Growing	Growing	Increasing Demand
CDC Battleford[4]	Limited	No Market	Increasing Demand
CDC Sisler[1]	Established	No Market	Stable Demand
Tradition[1,2,3]	Limited	Growing	Increasing Demand
Robust	No Market	Limited	Declining Demand
B1602[1,2,5]	No Market	Very Limited	Declining Demand

CDC Yorkton (BT459), CDC Tisdale (BT462), CDC Clyde (BT490) and CDC Springside (BT478) are not yet being grown for the commercial market. Production is limited to quantities required for testing and market development.

"Domestic" as used in this publication, means barley selected for domestic processing into malt to supply domestic brewers as well as for malt destined for export. "Export" is that malting barley designated for markets outside of Canada including the US, shipped as unmalted grain.

The CMBTC recommends the use of Certifed seed to ensure varietal purity and to increase opportunity for selection.

The following companies have Pedigreed seed distribution rights for those varieties that are footnoted:
1- (Agricore United); 2- (BARI-Canada); 3 - (QAS); 4 - (SeCan); 5 - (SWP).



CMBTC Members: A.C. Toepfer Canada, Agricore United, Busch Agricultural Resources-Canada, Canadian Wheat Board, Canadian Grain Commission, Canadian International Grains Institute, Cargill AgHorizons, James Richardson International, Parrish & Heimbecker, Quality Assured Seeds, the Public Plant Breeders, Saskatchewan Wheat Pool, SeCan.

Questions? Call your selector, seed company , grain handling company or the Canadian Wheat Board, or contact the CMBTC at 204-984-4399 (cmbtc@cmbtc.com)

Feed and Food Barley

Main characteristics of varieties

Category and variety	Years Tested	2 or 6 row	Rough or smooth awns	Yield (% of AC Metcalfe) Area 1	Area 2	Area 3	Area 4	Relative maturity rating *	Straw ‡	Resistance to Lodging	Net Blotch	Scald	Loose Smut	Other smuts	Root Rot	Stem Rust	Fusarium ~ Head Blight
Feed																	
CDC Bold	7	2	R	113	110	111	113	L	SD	G	P	F	P	VG	G	G	VP
CDC Dolly	11	2	R	103	103	104	102	M	N	G	P	G	P	G	F	G	F
CDC Earl	10	6	R	99	111	110	120	L	SD	VG	G	F	P	G	G	G	VP
CDC Fleet	11	2	R	88	89	89	89	VE	N	VG	F	F	P	VP	P	G	F+
CDC Helgason	7	2	R	107	104	105	102	M	N	G	G	P	VG	G	F	F	P
Niobe	5	2	R	—	99	99	109	M	N	F	F	P	P	G	P	G	P
Ponoka	3	2	R	—	106	108	—	L	N	G	F	G	VG	VG	F	P	F
Rivers	4	2	R	—	104	106	101	M	N	G	VG	P	VG	VG	G	F	F
CDC Trey	4	2	R	—	104	103	114	M	N	VG	VG	P	P	VG	F	G	F
Xena	7	2	R	112	112	114	113	M	N	G	F	P	P	VG	F	G	F+
AC Harper	11	6	S	104	104	106	101	M	N	G	F	G	P	F	F	G	VP
Kasota	8	6	S	97	106	109	108	E	SD	G	F	G	P	G	P	G	VP
Lacey	4	6	S	—	99	98	—	M	N	G	F	P	P	G	G	G	VP
AC Lacombe	11	6	S	98	110	110	102	M	N	G	F	F	P	VG	F	G	VP
Mahigan	8	6	S	106	112	114	115	E	SD	VG	F	G	P	G	P	G	VP
Manny	3	6	S	—	115	107	—	M	N	F	F	VG	P	VG	P	P	VP
Niska	6	6	S	105	120	123	129	L	SD	F	P	P	P	G	P	G	VP
AC Rosser	11	6	S	112	116	115	115	M	N	G	F	VP	P	VG	G	G	VP
Stander^	11	6	S	92	105	108	111	M	N	VG	F	P	P	P	G	G	VP
Trochu	6	6	S	104	105	107	117	M	N	F	P	F	P	G	G	G	P
Vivar	6	6	R	114	117	112	131	L	SD	G	F	P	F	G	F	G	VP
Hulless																	
CDC Dawn^	11	2	R	93	96	93	90	M	N	F	F	F	P	F	F	G	F+
CDC Freedom	9	2	R	89	91	90	89	M	N	G	F	P	—	G	P	G	F+
CDC Gainer	10	2	R	84	87	88	89	M	N	F	F	F	P	F	F	G	F
HB 805	5	2	R	95	96	97	93	L	N	F	F	P	F	G	F	F	F
CDC McGwire	8	2	R	96	99	99	99	M	N	G	VG	F	P	G	G	F	F
Tercel^	10	2	R	86	86	85	86	M	N	F	P	P	P	F	F	G	F
AC Bacon	9	6	R	89	95	95	98	M	N	G	P	F	P	F	F	G	F+
Peregrine	7	6	R	68	70	75	75	M	SD	VG	F	F	P	P	G	G	VP

* Relative maturity: The relative maturity of the check, AC Metcalfe, is M (on average, 91 days from seeding to swathing ripeness)

‡ N = normal, SD = semi-dwarf.

~ F+ indicates that these lines have better tolerance to those rated F but not enough to rate G (Read Seed Treatment note in Seed Facts)

Forage Barley

Dillon, AC Hawkeye, AC Ranger, and **Westford** are six row forage varieties.

Hulless

In hulless varieties the hull is left in the field, therefore, comparable yields are 9-12 percent lower. Hulless seed is more susceptible to damage than hulled seed, so handling should be minimized.

Hulless Waxy

CDC Alamo, CDC Candle, CDC Fibar, HB803, Merlin and **CDC Rattan** are waxy starch varieties for specialty markets. For further information contact Agricore United.

Irrigation

Under irrigation, disease resistance, straw strength and maturity are more critical. Growers should select early, strong-strawed, disease resistant varieties and should consider semi-dwarf varieties.

Feed and Food Barley (continued)

General Comments

Of the current two-rowed varieties, new varieties as **Rivers**, **CDC Trey** and **CDC McGwire** have good field resistance to all races of net blotch. Therefore, growers who must plant barley on barley stubble should select the above mentioned varieties.

Most of the available varieties are susceptible to one or more types of smut. Therefore, seed should be treated on a regular basis.

Harvesting grain over 16 percent moisture and then using aeration bins for drying can lead to sprouting and embryo death. Seed with reduced germination is undesirable for seeding or malting.

Two-rowed barley varieties are generally more resistant to shattering than six-row varieties.

Oat

Main characteristics of varieties

Variety	#of Years Tested	Yield as % Calibre: Area 1 & 2	Yield as % Calibre: 3 & 4	Test wt. (g/0.5L)	% Hull	% Plump	Relative Maturity Rating*	Resistance to: Lodging	Resistance to: Stem Rust	Resistance to: Leaf Rust	Resistance to: Smut
Calibre	13	100	100	250	22.9	44	M	G	VP	VP	P
AC Assiniboia	11	97	95	240	22.9	74	M	VG	F	G	VG
CDC Boyer	11	102	100	236	22.6	81	E	G	F	F	P
CDC Dancer	7	101	101	257	19.2	80	M	G	F	F	VG
Derby	13	101	103	251	22.2	74	M	G	VP	VP	P
SW Exactor	6	104	104	241	25.0	44	L	VG	VP	VP	F
Furlong	5	100	105	250	20.4	87	L	G	F	G	G
Kaufmann	7	98	96	250	22.1	85	L	F	F	G	VG
Lu	4	102	107	252	24.4	54	VE	G	VP	VP	G
AC Morgan	8	108	110	242	24.2	63	L	VG	VP	VP	F
CDC Orrin	6	107	111	257	22.5	81	L	G	VP	VP	VG
CDC Pacer	9	106	106	245	23.7	71	M	G	VP	VP	F
Pinnacle	8	114	110	245	23.1	80	VL	G	F	G	VG
Ronald	7	97	100	253	21.8	62	L	VG	F	G	VG
CDC Sol-Fi	2	92	93	241	23.0	52	M	F	VP	VP	G
Triple Crown	10	102	107	238	24.7	67	L	VG	VP	P	P

*Maturity rating: M = 96 days

Additional information:

AC Assiniboia and **Furlong** have brown hulls.

HULLESS OAT: **Boudrias**, **Bullion**, **AC Gwen**, and **Lee Williams** are hulless varieties available for production in Saskatchewan. The hull is part of normal oat yield, thus hulless types yield less. They are difficult to handle and should be stored at less than 12% moisture.

CDC Baler, **CDC Bell**, and **Murphy** are annual forage oat varieties available for forage production in Saskatchewan.

Pay Attention to Stored Flax

Frozen flax does not have the same storage capacity as sound, ripe, mature flaxseed that has dried to acceptable moisture content before harvest. Often, the increased dockage levels in frozen flax can lead to higher moisture content. Frozen flax usually has higher dockage rates for many reasons. Small, immature bolls that have frozen and ceased development often end up in the seed sample. In addition, mucilage, the outer coating of the seed, can flake off and cause the septum or other parts of the boll to fuse to it. As well, producers who usually relied on pre-harvest weed control to reduce weed seeds and dockage did not have much success with that management practice in 2004, because of both the frost and the wet conditions that were not conducive to herbicide application. Not only does dockage increase moisture content, typically, dockage is three to four per cent higher in moisture content, but it also provides a substrate for mould growth, which is an important factor in heating. As well, frozen flax usually has higher levels of cracked and dead seed, which is easy food for saprophytic microorganisms (those that grow on dead plant material).

For marketing purposes, flax is dry at 10 per cent moisture; however, that moisture level may not be safe for long-term storage. The oil fraction of flax, which is approximately 45 per cent, absorbs far less moisture than the fibre and starch fractions of cereal grains. The moisture in flax is concentrated in a portion of the seed, whereas in cereal grains the moisture is more evenly distributed. For safe storage beyond five months, the moisture level at the time of binning should be 9 per cent or lower.

Nine percent moisture at harvest may seem low; however, moisture level at harvest is not static. Seed is a living organism and will respire for at least six weeks. Respiration is the process in all living cells that converts nutrients to usable energy by reaction with oxygen. The by-products are heat and moisture and can increase overall moisture content by at least 1 per cent. If moisture levels are high enough to support mould growth this will further increase temperature and moisture as moulds are also living, respiring organisms. Mould growth or pockets of high dockage may result in hot spots or pockets in the bin that are hard to detect by probing with sensors.

Another factor that can lead to heating and spoilage is moisture migration. In the fall and winter, cold weather cools the air on the inside periphery of the bin. This cold air is denser than warm air and it sinks, pushing up warm air in the centre of the bin. As the warm air moves up in the centre of the bin, the grain near the surface cools it and the moisture in the air condenses because cold air cannot hold as much moisture as warm air.

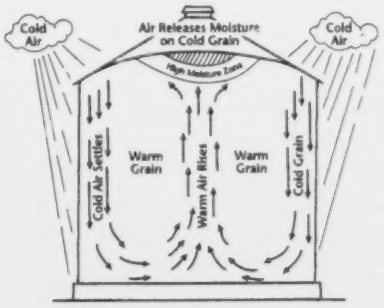


Figure 1: Adapted from the Canola Growers Manual

As this circulation continues, moisture begins to accumulate at the surface, which can lead to crusting and mould growth (Figure 1). Warm spring and summer air can also cause moisture migration; however, it will occur in the opposite direction causing a high moisture zone at the bottom versus the top of the bin.

To further reduce the risk of heating and spoiling, you could consider aeration, moving, replacing, cleaning and timely marketing.

Aeration of stored flax can help condition seed for safe storage by producing the lowest practical temperature of the seed and minimizing the temperature variation within the bin. Forcing ambient air through stored flax seed via an aeration system may not drop the moisture content. If the moisture content is above 11 per cent, aeration is not sufficient to condition the seed for long-term storage. Because of the size and shape of flax seeds, they require significantly more air pressure for effective conditioning than cereals, consequently, systems designed for cereals may not sufficiently cool flax seed enough for safe storage. You should begin aerating when the average outdoor temperature is approximately 10°C lower than the crop temperature aiming, for a final temperature of near 0°C, which may take two to three cycles to achieve.

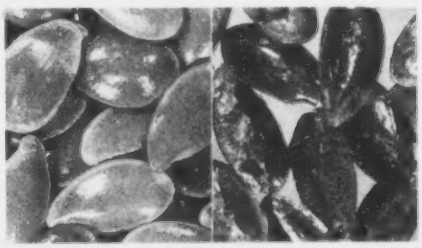


Figure 2: No.1 Flaxseed and heated flaxseed (Adapted from the Flax Council of Canada.)

Another method to manage flax that may be in danger of heating is to physically move it to another bin or to remove a truck load from the bottom and replace it back on top. This simple measure will cool down warm, high moisture pockets of seed and redistribute them back into the bin.

Cleaning the seed, especially if it has high dockage, is another measure that can help reduce the chance of heating. Thorough cleaning through a plant is not necessary. A simple scalping operation that removes a good portion of the dockage, which is generally three to four per cent higher in moisture than seed, may be all that is required.

Another solution is simply to market the flax you are worried about heating. Most grain terminals have the capacity to deal with higher moisture, higher dockage seed. This can be a difficult decision, especially if you are holding out for a better price, but the economics of trying to market heated flax is certainly not an attractive alternative.

OTHER CROPS:

Canary Seed

The seed of annual canarygrass, more commonly called canary seed, is used as food for caged and wild birds. Five varieties are registered in Canada. **Elias, Keet** and **Cantate** are similar in yield, but **Keet** and **Cantate** are earlier maturing and more resistant to lodging. Seeds and plants of **CDC Maria** and **CDC Togo** do not have the small sharp hairs that cause irritation when canary seed is threshed and handled. **CDC Maria** and **CDC Togo** have higher test weights compared to pubescent cultivars. **CDC Togo** is higher yielding than **CDC Maria** and has heavier seed. Canary seed plants have a dense shallow root system and growing the crop on sandy soils is therefore not recommended. Canary seed may be grown successfully on stubble, providing adequate moisture is available for rapid germination and emergence. The maturity requirements are similar to wheat. Seed for **CDC Togo** may not be available in 2005.

Planting should occur at the same optimum date as spring wheat at 34 kg/ha (30 lb/ac) (germination greater than 85 per cent). Early seeding may lower yields in some cases. Plant the seed 3.5 to 5 cm deep into a firm seedbed.

Fertilizer requirements are similar to those for cereal crops.

Canary seed is subject to damage by English grain aphid and bird cherry-oat aphid. Aphid populations build up rapidly on leaves, stems and head of the plant in August and may require an insecticide application to prevent yield loss. Information from the United States indicates that infestations of 10 to 20 aphids on 50 per cent of the stems prior to soft dough stage may cause enough damage to warrant insecticide application. The aphids often hide in the dense head of canary seed. Damage may occur at populations below these levels.

Canary seed leaf mottle is a foliar disease that can cause yield losses. Leaf mottle is caused by a fungus, *Septoria triseti*, that only affects canary seed. The disease is inconspicuous at early stages because there is little visual contrast between healthy and diseased leaf area. Stubble borne inoculum is the source of infection, thus crop rotation is key in limiting the severity of leaf mottle.

Canary seed should not be seeded on land that was treated with trifluralin or ethalfluralin the previous year.

Canary seed is resistant to shattering. It may be straight-combined or swathed when fully matured.

For more information on canary seed, consult the SAFRR publication, *Canary Seed in Saskatchewan*.

Safflower

Safflower is an annual oilseed or birdseed crop which can be grown successfully in the Brown soil zone. Safflower must be sown early (late April).

Saffire matures in about 120 days. Seed shallow but into a firm moist seedbed at about 30 kg/ha (27 lb./ac). **Saffire** has moderate resistance to Sclerotinia head rot and Alternaria leaf spot. Contract production is advised.

AC Sunset has the earliness of **Saffire** combined with higher oil content and resistance to Sclerotinia head rot.

Buckwheat

Buckwheat is sensitive to high temperatures and dry weather conditions in the blossom stage which can reduce seed set and yields. New self-pollinated varieties are being released. Buckwheat is very susceptible to frost at all stages of growth. Delayed seeding is advisable to avoid spring frost.

Caraway

Caraway is a biennial spice crop, producing seed in the second year and sometimes in the third year. Seedlings are small, slow in developing and compete poorly with weeds. The crop is usually swathed because of its indeterminate growth habit and seed shattering. For more information, consult the SAFRR publication, *Caraway in Saskatchewan*.

Fenugreek

Fenugreek is a leguminous spice crop adapted to dryland conditions in the Dark Brown and Brown soil zones. The crop should be seeded early to avoid yield and quality loss from fall frost. Contract production is advisable, as markets are limited. For more information, consult the SAFRR publication, *Fenugreek in Saskatchewan*.

Coriander

Coriander is an annual spice crop. Seedlings are small, slow to develop, and compete poorly with weeds. The large seeded type is earlier maturing than the small seeded type. **CDC-Major** is a large-seeded coriander variety and **CDC-Minor** is a small-seeded variety. The crop is usually straight-cut to avoid wind damage in swaths. For more information, consult the SAFRR publication, *Coriander in Saskatchewan*.

SEED FACTS

Pedigreed Seed

Use certified seed regularly. This assures that the seed has high genetic purity, high germination and is relatively free from weeds and other crop seeds.

Reuse of Hybrid Variety Seed

Seed grown from a hybrid variety (regardless of crop or variety) should not be reused since a 20 to 25% yield reduction can occur in the next generation. This reduction is due to loss of hybrid vigour and possible occurrence of male-sterile plants. Lack of uniformity for maturity and quality traits will also occur.

Seed Cleaning

Seed should be cleaned carefully to remove weed seeds, trash, small or broken kernels, ergot and sclerotia. Not all seed-cleaning plants are equipped to clean grain to seed standards.

Seed Treatment

Various fungicides have been registered for the control of seedling diseases caused by soil- and seed-borne pathogens.

Use of seed from cereal crops infected with *Fusarium* may result in poor emergence. Such seed should be treated with a registered fungicide before planting. Use of infected seed may introduce *Fusarium* diseases into unaffected areas.

Smuts that attack wheat, barley, oat and rye can be controlled by seed treatment. If seed from a crop in which bunt or smut was observed must be used for seed, seed treatment should be considered. If the presence of smut is uncertain, varieties rated VERY POOR should be treated every year, those rated POOR every second year and those rated FAIR every third year.

Only systemic fungicides will control true loose smut of barley and wheat, and stem smut of rye. Pathogens causing the other types of smut (covered, false loose, oat smut and bunt) are carried on the outside of the seed and can be controlled by non-systemic seed treatments containing maneb or thiram.

The virulent form of blackleg of canola is widespread in Saskatchewan. Seed treatment with a recommended fungicide can reduce the level of disease. Use of canola seed commercially coated with an appropriate seed dressing is a convenient alternative to on-farm seed treatment.

Wireworms, which attack all grain crops, and flea beetles, which attack canola and mustard, can be controlled by seed treatment with insecticides.

Read the label carefully before using any seed treatment or insecticide. Information on their use and recommended rates is found in the Guide to Crop Protection 2005. Carryover stocks of treated seed should be tested for germination before using. Treated seed must not be delivered to an elevator or used for feed.

Seed-borne diseases of pulses

Pulse growers should use seed that has been tested for seed-borne diseases such as ascochyta, anthracnose and botrytis. Tolerances for seed infection vary with the pulse crop, the disease, weather conditions of the region and the availability of a seed treatment. If infection of the crop from sources other than seed is likely, using seed with low infection levels becomes less important.

In regions with frequent rainfall and high humidity, tolerances will be lower. Thus, for ascochyta blight of lentil, use of seed with up to five per cent seed infection is acceptable in the Brown and Dark Brown Soil Zones, but 0% is desirable in the Black Soil Zone. A seed treatment for ascochyta-infected lentil seed is available and is recommended if seed infection levels approach 5%. In pea, up to 10% seed infection with ascochyta is acceptable. In chickpea, 0% ascochyta seed infection is recommended because of the high rate of transmission of the disease from the seed to the emerging seedlings and its highly destructive nature.

Ergot

Ergot attacks all varieties of rye, triticale, wheat and barley, as well as most common grass species. Oat is rarely attacked and all broadleaf species are immune. Grain containing 0.1% ergot is considered poisonous and should not be used for food. Details of this disease are found in *Ergot of Grains and Grasses* (AAFC Publ. 1438).

Seed Inoculation

Legume crops obtain much of their nitrogen (N) requirement by forming a symbiotic association with soil bacteria called *Rhizobium*. These bacteria colonize the roots to form structures called nodules where they fix nitrogen for the legume plant. To enhance nitrogen fixation, the legume crop seed should be inoculated. **Use the proper strain of bacteria specific to that crop**. For further details, consult the *Pulse Production Manual* (Saskatchewan Pulse Growers).

Damp and Frozen Seed

Seed which is stored damp or tough may be low in germination. Grain which will be used for seed should be dried, if necessary, soon after harvest. The drying temperature should be below 37°C for batch driers and 43°C for recirculating and continuous driers. Frozen grain should always be tested for germination by a seed-testing laboratory before planting. Such grain will frequently produce a high percentage of abnormal seedlings.

Production Notes

All wheat classes, including durum and triticale, are susceptible to wheat midge. Farmers in infested areas should be prepared to spray fields with recommended insecticides if necessary. Refer to the SAFRR publication *Orange Wheat Blossom Midge*.

Residue of infected crops may harbour disease pathogens. Seeding into stubble of the same crop kind will increase disease risk, particularly in higher rainfall areas.

Pulse Crops

2004 Regional Variety Trials

In 2004, Saskatchewan Pulse Growers provided a one-year grant of approximately $93,000 to fill an urgent need for pulse crop regional variety testing in Saskatchewan.

The Crop Development Centre (CDC) collaborated with researchers already onsite at several locations (such as the Agri-ARM sites) in order to make best use of project dollars. The project collected data on varieties from the CDC program as well as Cebeco, Svalof Weibull, Agriculture & Agri-Food Canada (AAFC), and other breeding programs. This project will augment data from Co-op Tests.

Methodology

Field pea, lentil, chickpea, and dry bean variety trials were conducted at 8-14 locations per crop in their target areas of adaptation in Saskatchewan. The number of entries per trial was 26 for pea, 24 for lentil, 24 for chickpea, and 18 for dry bean. Trials were set up and managed by the pulse crop breeding program at the CDC.

Lentil

Main characteristics of varieties

Market class	Variety	Years tested*	Yield Areas 1-2	% of Laird Areas 3-4	Height (cm)	Days to Flower	Maturity rating	Resistance to Ascochyta blight	Resistance to Anthracnose Race 1	Cotyledon colour	Seed weight (g/1000)
Large green	Laird	10	100	100	41	53	VL	VP	VP	yellow	67
	CDC Glamis	9	110	106	39	54	VL	G	VP	yellow	60
	CDC Grandora	8	105	108	40	53	VL	G	VP	yellow	69
	CDC Plato	6	128	109	38	52	ML	G	P	yellow	62
	CDC Sovereign	8	118	110	40	52	L	G	P	yellow	66
	CDC Sedley	7	114	108	39	51	M	F	VP	yellow	68
Medium green	CDC Richlea	9	129	115	35	50	M	VP	VP	yellow	51
	CDC Vantage	9	129	122	33	49	M	G	VP	yellow	52
Small green	CDC Milestone	10	135	127	31	49	E	G	VP	yellow	37
	CDC Viceroy	5	140	146	34	49	E	G	G	yellow	33
	Eston	9	116	111	30	48	E	VP	VP	yellow	33
French green	CDC LeMay	5	121	114	35	48	E	F	VP	yellow	32
	Common	5	122	113	32	49	E	P	VP	yellow	31
Small red	CDC Blaze	6	116	110	30	47	E	G	P	red	34
	CDC Redberry	4	128	142	34	50	EM	G	G	red	42
	CDC Redcap	8	119	117	30	49	E	G	F	red	35
	CDC Robin	7	124	110	30	49	E	G	G	red	30
	CDC Rouleau	4	133	na	33	52	M	G	G	red	37
	Crimson	6	117	112	29	49	E	VP	VP	red	35

* Coop and Regional Trials in Saskatchewan since 1995. Direct comparisons to Laird.

Additional Information:

Indianhead lentil is a black-seeded variety released for green manure use. **CDC Matador** is a brown-seeded variety with yellow cotyledons.

Seed supplies are limited for **CDC LeMay, CDC Plato, CDC Viceroy** and **CDC Redberry.**

Detailed agronomic information may be found in the **Pulse Production Manual** available from the Saskatchewan Pulse Growers.

Field Pea

Main characteristics of varieties

Variety	Years tested*	Yield % Alfetta: Area 1,2 and South 3	Yield % Alfetta: Area North 3 and 4	Yield % Alfetta: Irrigation	Leaf type**	Relative maturity	Vine Length (cm)	Resistance to: Mycosphaerella blight	Resistance to: Powdery mildew	Resistance to: Seed coat breakage	Resistance to: Lodging	Resistance to: Bleaching	Seed coat dimpling***	Green seed coats****	Seed weight g/1000
Yellow															
Alfetta	8	100	100	100	SL	M	60	P	P	F	F	n/a	F	G	290
Carneval	7	89	85	107	SL	M	75	F	P	F	G	n/a			230
CDC Bronco	5	118	116	104	SL	M	75	F	VG	G	G	n/a	G	G	230
CDC Golden	5	117	108	106	SL	M	85	F	VG	G	G	n/a	G	G	230
CDC Handel	5	112	99	112	SL	L	75	P	VG	G	F	n/a	G	F	220
CDC Mozart	8	115	108	108	SL	M	70	F	VG	G	F	n/a	G	F	220
CDC Minuet	5	109	108		SL	M	70	F	VG	F	F	n/a	G	F	190
Croma	5	101	100		SL	E	70	P	P	G	F	n/a	G	G	300
Cutlass	5	114	114	103	SL	M	75	F	VG	F	G	n/a	F	G	220
Delta	4	101	98		SL	E	70	P	P	G	F	n/a			250
DS Admiral	5	101	110	96	SL	E	80	F	VG	G	G	n/a	G	G	240
DS Stalwarth	4	97	95	103	SL	M	80	P	VG	G	F	n/a	G	G	240
Eclipse	6	110	107	105	SL	M	80	F	VG	G	G	n/a	F	G	250
Grande	7	93	91	93	N	L	90	F	P	G	F	n/a	G	F	220
Miser	5	108	113	91	SL	M	80	F	VG	G	F	n/a	G	G	190
SW Bellfield	4	112	121	114	SL	E	70	P	P	F	F	n/a	F	G	220
SW Bravo	4	88	95		SL	E	75	F	P	G	G	n/a	G	G	260
SW Cabot	3	102	93	95	SL	E	70	P	P	G	G	n/a	G	G	250
SW Carousel	3	108	115	99	SL	E	85	F	VG	F	G	n/a	G	G	250
SW Circus	4	104	116	108	SL	E	75	F	P	F	G	n/a	F	G	220
SW Capri	4	102	108		SL	E	75	F	P	F	G	n/a	F	G	210
SW Midas	3	110	95	95	SL	E	80	F	VG	G	G	n/a	G	G	220
SW Prize	4	100	97		SL	E	80	F	P	G	G	n/a	G	G	240
SW Salute	5	111	109	85	SL	E	75	P	VG	F	F	n/a	F	F	220
SWING	5	95	99		SL	E	75	F	P	VG	G	n/a	G	G	250
Topeka	6	112	103	88	SL	E	65	F	VG	G	F	n/a	G	G	260
Tudor	3	105	98	96	SL	M	80	P	VG	F	G	n/a	G	F	270
Green															
Camry	3	112	95	93	SL	M	65	F	VG	F	G	F	G	n/a	260
CDC Montero	5	99	95		SL	M	80	F	VG	G	F	F	F	n/a	230
CDC Striker	5	100	103	88	SL	M	80	F	P	VG	G	G	G	n/a	230
Cooper	3	116	103	97	SL	L	80	F	VG	F	G	G	G	n/a	270
Cruiser	4	91	87		SL	M	75	F	P	VG	F	G	G	n/a	200
Espace	4	96	101		SL	M	75	P	P	F	G	F	F	n/a	230
Madoc	6	96	99	104	SL	E	70	P	P	F	F	F	F	n/a	250
Majoret	5	79	75	95	SL	M	60	P	P	G	G	F		n/a	250
Millenium	5	103	97		SL	E	65	P	P	F	F	F	F	n/a	260
Nessie	3	101	107		SL	E	70	F	P	F	G	F	F	n/a	270
Nitouche	8	94	97	91	SL	M	75	F	P	G	G	G	F	n/a	250
Scuba	4	82	87		SL	E	80	P	P	F	F	F	F	n/a	230
Stratus	6	115	105	89	SL	M	70	F	VG	G	F	F	G	n/a	270
SW Parade	5	99	91	102	SL	M	70	F	VG	G	F	F	G	n/a	220
Toledo	4	87	95		SL	M	70	P	P	G	G	F	F	n/a	280
Venture	4	97	88		SL	E	75	P	P	G	F	F	F	n/a	220
Maple															
CDC Acer	3	109	100		SL	L	60	F	VG	G	F	n/a	G	F	170
Courier	4	98	92	79	SL	M	75	F	P	F	P	n/a	G	F	210
Whero	3	60	57		N	L	110	P	P	G	P	n/a		n/a	210
Silage															
CDC Sonata	4	111	100		N	L	85	F	VG	F	F	n/a	F	F	220
Trapper	7	74	73		N	L	95	P	P	F	P	n/a			140
Victoria	7	80	77		N	M	85	P	P	F	P	n/a			190
40-10	2	91	100		N	L	100	P	P	F	P	n/a	G		170

* Coop and regional trials in Saskatchewan.

**N-normal leaf type; SL-semi-leafless.

***Seed coat dimpling: VG=0-5%; G=6-20%; F=21-50%.

****Green seed coats: Good = 0-10%; Fair = 11-25%.

Relative ratings for disease, seed coat breakage, lodging, bleaching (for green seed varieties), seed coat dimpling, and green seed coats (for yellow seed varieties) VG-very good; G-good; F-fair; P-poor; VP-very poor.

Additional Information

For detailed production information, consult the Pulse Production Manual published by the Saskatchewan Pulse Growers.

Chickpea

Characteristics of Kabuli and Desi chickpea varieties

Kabuli									
	Years	Yield (% Sanford)		Leaf	Ascochyta	Height	Days to	Maturity	Seed weight
Variety	tested	Area 1	Area 2	type*	blight	(cm)	flower		(g/1000)
Sanford	8	100	100	U	VP	49	56	VL	425
Amit (B-90)	7	133	137	F	F	46	55	L	265
CDC ChiChi	5	117	117	F	P	45	53	L	385
CDC Chico	7	136	147	F	P	45	51	M	265
CDC Diva	4	104	117	U	VP	43	52	L	490
CDC Frontier	4	154	154	F	F	45	54	L	375
CDC Xena	8	115	128	U	VP	44	52	L	470
CDC Yuma	7	113	116	F	P	47	53	VL	410
Dwelley	3	86	88	U	VP	45	57	VL	490
Evans	4	90	98	U	VP	50	53	VL	430

Desi											
	Years	Yield (% Myles)		Leaf	Ascochyta	Height	Days to	Maturity	Seed weight	Seed	Seed coat
	tested	Area 1	Area 2	type*	blight	(cm)	flower		(g/1000)	shape**	color***
Myles	8	100	100	F	F	41	50	M	200	A	T
CDC Anna	7	110	114	F	F	42	52	L	210	P	T
CDC Cabri	6	110	113	F	F	43	48	M	295	P	T
CDC Desiray	7	97	108	F	F	37	49	M	210	P	LT
CDC Nika	6	97	104	F	F	39	50	L	320	P	T

Area 1: brown soil zone
Area 2: dark brown soil zone
*Leaf type: F=fern; U=unifoliate
**Seed shape: P=plump; A=angular
***Seed coat color: T=tan; LT=light tan

Additional Information

Chickpea is best adapted to stubble production in the Brown and Dark Brown soil zones. Chickpea is a deep-rooted crop, which is efficient in water uptake. Planting on clay soils, regardless of soil zone, increases the risk of prolonged vegetative growth and failure to mature on time. This risk can be reduced by planting on sandier, drought prone soils. Chickpea will tolerate light frosts in the spring. Desi varieties can be seeded in late April or early May. Kabuli varieties should be planted between early to mid May into a warm seedbed, preferably at least 10°C average soil temperature at depth of seeding. This means that kabuli varieties are often later maturing.

Ascochyta blight can completely destroy a chickpea crop. Varieties listed in the recommendation tables differ in their resistance from "Very Poor" to "Poor" to "Fair." None are rated as "Good." To date, fern-leaf varieties tend to develop less ascochyta blight than unifoliate-leaf varieties. Susceptibility to the disease increases at the flowering and early podding stage. Field scouting for disease symptoms should begin in early June and continue throughout the growing season. Scouting should concentrate on areas where the risk of early infection is higher, e.g. fields adjacent to previous chickpea crops, where plant densities are higher, and in higher moisture areas. Scouting field margins is not sufficient. Fungicide application(s) are often necessary to protect crops. Disease risk is greater under conditions of frequent showers and/or heavy dew, and for varieties rated as Poor or Very Poor. Ascochyta blight is seed-borne and stubble-borne, therefore, growers should use seed with ascochyta blight levels as close to 0% as possible, and plant chickpea in the same field no more than once in four years.

Chickpea requires planting equipment with a seed-feeding mechanism capable of handling large seeds. Chickpea seeds are highly susceptible to damage and should be handled gently at all times. Seed treatment with Apron FL (metalaxyl) for seed rot diseases is strongly recommended for kabuli varieties, and may be required for desi varieties if conditions favour seed rotting diseases. Seed treatment with Crown (carbathiin and thiabendazole) is strongly recommended for both desi and kabuli varieties to reduce the severity of seed-borne ascochyta blight. Plant chickpea seeds approximately 6 cm deep. Seeding rates vary with seed size; target 4 plants/ft^2. Desi varieties are generally earlier maturing and higher yielding compared to the currently available kabuli varieties. The chickpea crop has stiff stems and can be swathed or straight cut at maturity. Thresh kabuli varieties gently to avoid seed splitting. All **kabuli** chickpea varieties listed have normal ("ram's head") seed shape, with the exception of **Amit** which has a round seed shape.

Certified Seed of **CDC Yuma**, **CDC Xena**, **CDC Chico**, **CDC Diva**, **CDC Desiray**, **CDC Anna**, **and CDC Nika** will be available in 2005. For more details on production consult the Pulse Production Manual published by the Saskatchewan Pulse Growers.

Dry Bean

Main characteristics of varieties

Variety	Type	Years Tested*	Yield (% of CDC Pintium) Irrigation	Area 2	Area 3	Days to flower	Maturity	Pod Clearance (%)**	Seed weight (g/1000)	Growth Habit***
CDC Pintium	pinto	8	100	100	100	50	E	80	350	I
CDC Camino	pinto	6	97	86	76	52	L	81	323	I
CDC Minto	pinto	6	89	95	95	51	M	62	410	III
CDC Pinnacle	pinto	5	102	103	98	53	L	67	352	III
Earliray	pinto	5	82	89	80	50	E	65	349	I
Othello	pinto	6	96	96	89	52	L	51	323	III
Envoy	navy	4	81	78	95	53	M	73	184	I
CDC Whitecap	navy	6	88	95	95	56	M	75	194	II
AC Polaris	great northern	6	95	84	97	52	L	70	310	III
CDC Polar Bear	great northern	5	95	87	77	52	L	65	339	III
US 1140	great northern	6	88	87	81	51	L	53	289	III
Viva	pink	4	94	102	80	51	L	50	242	III
AC Redbond	small red	6	95	102	97	51	M	65	290	II
CDC Expresso	black	8	67	77	71	47	M	87	191	I
CDC Jet	black	5	74	105	111	58	L	80	175	II
CDC Nighthawk	black	5	62	61	67	58	L	77	165	II
UI906	black	5	93	96	71	60	L	76	148	II

* Coop and regional trials grown in narrow rows. Direct comparisons to CDC Pintium since 1996.
**Pod clearance: percentage of pods that completely clear the cutterbar at time of swathing.
***Growth habit: I - determinate bush; II - indeterminate bush; III - indeterminate vine.

Faba Bean

Main characteristics of varieties

Variety	Years tested	Yield as % of Outlook (Northeast) Dryland	(South-central) Irrigated	Maturity in days	Seed weight (g/1000)
Outlook	15	100	100	109	360
Aladin	15	104	110	112	400
CDC Blitz	6	101	105	109	410
CDC Fatima	8	100	104	105	520
Cresta	3	92	101	105	630
Orion	6	95	94	103	350
Scirocco	3	95	110	107	550

Additional Information

Faba bean should be seeded early (late April to early May). It is best adapted to irrigated areas in the Dark Brown Soil Zone and the portion of the Black Soil Zone with the longest growing season.

Seed supplies of **CDC Blitz**, **Scirocco** and **Cresta** are limited.

Faba bean is a legume and thus is able to fix nitrogen from the air, provided the seed is inoculated with the proper bacteria prior to planting.

Oilseed Crops

Flax

Main characteristics of varieties

Variety	Years tested	Yield as a % of Vimy: Area 1 and 2	Yield as a % of Vimy: Area 3 and 4	Yield as a % of Vimy: Irrigation	Maturity**	Seed size	Resistance to Lodging
Vimy	16	100	100	100	M	L	P
CDC Arras	10*	102	102	109	M	L	F
CDC Bethune	10*	108	112	119	L	M	G
AC Carnduff	9*	91	100	113	M	M	G
AC Emerson	8	96	94	98	M	L	F
Flanders	11	97	97	108	L	S	G
Hanley	7*	99	98	118	M	M	G
Lightning	8*	99	103	113	L	M	G
Macbeth	7*	98	101	116	L	M	G
AC McDuff	7	94	96	102	VL	M	VG
CDC Mons	6*	101	106	119	L	S	G
NorLin	16	95	98	105	M	M	G
CDC Normandy	9	100	103	101	M	M	F
Prairie Blue	6*	105	103	125	VL	S	VG
Somme	10	96	98	109	M	M	F
Taurus	8*	102	110	115	M	M	G
CDC Valour	7	100	96	96	E	M	G
AC Watson	7	97	104	105	M	M	G
Solin							
CDC Gold	6*	88	84	96	E	L	G
2047	6*	95	102	111	M	M	G
2090	5*	101	104	117	M	L	G
2126	4*	99	102	—	M	M	F

***Data from Regional and Coop yield trials.**

** Relative maturity: The relative maturity of the check , Vimy, is M (on average 103 days from seeding to swathing ripeness).

Additional Information

All varieties are resistant to rust and moderately resistant to Fusarium wilt.

2126 is a newly registered variety of which no seed will be available in 2005. **2126** is a solin variety distributed by Agricore United/Proven Seed.

Solin is defined as a type of flax with less than 5% linolenic acid in its oil and having a yellow seed coat. Solin varieties produce food quality oil and , as such, cannot be sold in traditional flax markets. They are available only for contract production.

Frozen flax should be analyzed by a feed testing laboratory to determine that it is free of prussic acid before using it as a livestock feed.

Mustard

Main characteristics of varieties

Type & Variety	Years Tested	Yield as % of AC Pennant	Protein % seed	Seed weight g/1000	Mucilage[1] cS ml/ g
Yellow					
AC Pennant	14	100	35.2	5.9	30.5
AC Base	11	101	35.2	6.2	31.1
Tilney	14	96	35.8	6.1	37.4
Viscount	14	92	36.1	5.5	41.4
Ace	7	100	36.0	5.8	39.2
Andante	6	101	36.2	6.4	42.4

	Years Tested	Yield as % ofCutlass	Fixed oil % seed	Seed weight g/1000	Volatile oil [2] mg/g
Oriental					
Cutlass	25	100	41.6	2.6	10.2
Forge	19	98	38.9	2.4	10.5
AC Vulcan	14	101	41.1	2.7	11.2

	Years Tested	Yield as % ofCutlass	Fixed oil % seed	Seed weight g/1000	Volatile oil [2] mg/g
Brown					
Commercial	23	92	38.5	2.5	8.8
Duchess ✪	7	93	38.6	2.6	8.7

[1] Mucilage in centi Stoke per 1g seed (a measure of viscosity).
[2] Volatile oil as allyl isothiocyanate.

Additional Information

Mustard is grown in the drier regions of Saskatchewan. Yellow mustard (*Sinapis alba*) varieties mature in approximately 90-92 days, brown varieties in 85 days and oriental (*Brassica juncea*) varieties mature in 86-88 days. Top grades of mustard seed are obtained from well matured, good colour seeds with minimal damage and are free of seeds from volunteer canola plants and weed seeds such as cow cockle. Mustard is normally grown under contract. Yellow mustard has a high protein content with newer varieties, Viscount and Andante, also having high mucilage content. Forge and AC Vulcan have high volatile oil content, which is a desirable trait for oriental mustard, as is the low fixed oil content. All mustard varieties have good resistance to blackleg disease. The oriental type varieties AC Vulcan and Cutlass are resistant to white rust while Forge and the brown mustard varieties Commercial Brown and Duchess are highly susceptible. Seed weight is important for germination and stand establishment.

Sunflower (Oilseed)

Main characteristics of varieties

Variety	Years Tested	Yield as % of 6111	Average Maturity in days	Oil %*
6111	14	100	121	46.7
63A70	6	110	122	47.9
63M52	3	103	122	47.8
63M02(I)**	3	106	119	50.7

* Dry basis
(I) interim registration
** mid oleic NuSun

Sunflower (Oilseed) EMSS

Main characteristics of varieties

Variety	Years Tested	Yield (kg/ha) (6 year ave.)	Average Maturity	Oil %*
63A21	6	2089	114	47.6

* Dry basis

Additional Information

Sunflower requires 105-125 days to mature, depending on the cultivar and the growing season. Oilseed sunflower has been grown in the Dark Brown and Black soil zones in southeastern Saskatchewan.

The earlier maturing, short stature (EMSS) varieties are adapted to production in most areas of Saskatchewan.

The Saskatchewan Sunflower Committee has been conducting trials in Saskatchewan for the purpose of registration and demonstration since 1983.

Varieties that have been tested in official Saskatchewan Sunflower Committee trials for three years, continue to be tested and are registered for production in Canada are placed on this list.

The Committee has been testing NuSun, a sunflower with a fatty acid profile desired by major frying companies. There will be additional acres of oilseed sunflower required to address the increased birdseed market.

Canola

Current Name	Organization	Varietal Kind	Herbicide	Low Lin	Maturity: Short Season +/- days	Maturity: Mid Season +/- days	Maturity: Long Season +/- days	Yield: Short Season 8 ST. YR**	Yield: Mid Season 16 ST. YR	Yield: Long Season 12 ST. YR	Maturity: All Zone +/- days	Height: All Zone +/- inches	Lodging: All Zone rating +="better"	BLACKLEG RATING
***B. napus* compared to 46A65**														
46A65	Pioneer Hi-Bred	O	CO		0	0	0	100	100	100	0	0	0	R
46H02	Pioneer Hi-Bred	H	CO		-3	-1	-1	117	113	112	-1	-1	0	R
AV 9289	Advanta Seeds	O	CF		-3	-2		100	94		-2	3	-1	R
NEX 824 CL	Dow AgroSciences	O	CF	√		1	2		93	99	1	0	0	R
NEX 830 CL	Dow AgroSciences	O	CF	√		3	3		97	103	3	4	0	R
45H72	Pioneer Hi-Bred	H	CF		-3	-2	-2	118	113	108	-2	1	0	R
46A76	Pioneer Hi-Bred	O	CF		2	2	2	101	101	97	2	1	0	R
46H70	Pioneer Hi-Bred	H	CF		-1	-1	-1	100	104	104	-1	1	0	R
163-12	Quality Assured Seeds	O	CF			2			104		2	-1	-1	MS
COUGAR CL	Sask Wheat Pool	O	CF		-2	-1		99	91		-1	-2	0	R
SP 442 CL	Sask Wheat Pool	H	CF			-3			95		-3	-1	-1	MR
SP DELIVER CL	Sask Wheat Pool	O	CF		-4	-1		91	85		-2	-3	0	MR
SP DISTINCTION CL	Sask Wheat Pool	O	CF		7	3		84	79		5	-4	1	MR
5020	Bayer CropScience	H	LL		-4	-3	-2	133	126	116	-3	-3	0	R
5030	Bayer CropScience	H	LL		-4	-1	-1	133	132	120	-2	3	0	R
5070	Bayer CropScience	H	LL		-3	0	0	132	129	123	-1	3	0	R
LBD 2393LL	Brett-Young Seeds	O	LL			3			99		3	4	0	MS
AV 9505	Advanta Seeds	H	RR			0	1		104	102	1	3	0	R
3140_01	Brett-Young Seeds	O	RR		-1	-2	1	98	93	92	-1	0	-1	R
3458_01	Brett-Young Seeds	O	RR		0	1	1	104	98	96	1	0	0	R
LBD 588RR	Brett-Young Seeds	O	RR		-2	-1	-1	100	94	89	-1	-1	0	R
1841	Canterra Seeds Ltd.	H	RR			1	1		111	108	1	2	0	R
1896	Canterra Seeds Ltd.	H	RR		-6	-4		104	99		-5	-2	-1	R
CNH1505R	Cargill Specialty Canola Oils	H	RR	√		-3			104		-3	-1	0	MS
IMC209RR	Cargill Specialty Canola Oils	O	RR	√		1			89		1	2	0	MR
v1031	Cargill Specialty Canola Oils	H	RR	√		-1	-1		105	108	-1	2	-1	MR
v1032	Cargill Specialty Canola Oils	H	RR	√		-1	-1		102	98	-1	2	0	MR
3235	Monsanto Canada Inc.	O	RR		-4			97			-4	-5	0	MR
33-95	Monsanto Canada Inc.	O	RR		-3	-2		100	96		-2	-3	0	R
34-55	Monsanto Canada Inc.	O	RR		1	1	1	102	100	95	1	0	0	MR
35-85	Monsanto Canada Inc.	O	RR				2			94	2	1	0	R
43A56	Pioneer Hi-Bred	O	RR		-11	-7	-7	105	93	87	-8	-3	-1	MR
45H21	Pioneer Hi-Bred	H	RR		-4	-2	-1	122	116	114	-2	0	0	R
45H24	Pioneer Hi-Bred	H	RR		-4	-3	-2	123	114	115	-2	1	0	R
46H23	Pioneer Hi-Bred	H	RR		-3	-2	-1	111	109	107	-2	-1	0	R
SW 6802	SW Seeds Canada Ltd.	S	RR		-4	-3	-2	114	105	100	-3	-1	-1	MR
9451	PROVEN SEED	S	RR		-4	-3	-1	108	102	99	-3	1	-1	MR
9550	PROVEN SEED	O	RR		-2	-1	-1	105	105	97	-1	0	0	R
GLADIATORR	Quality Assured Seeds	S	RR			-2			101		-2	-1	0	MR
SP 451 RR	Sask Wheat Pool	H	RR			-2	-2		111	107	-2	0	0	MR
SP BANNER	Sask Wheat Pool	O	RR		-4	-2	-1	107	103	93	-2	-1	0	R
SP CRAVEN	Sask Wheat Pool	O	RR	√		0			83		0	-3	-1	R
SP DESIRABLE RR	Sask Wheat Pool	S	RR			-3	-2		108	104	-3	-1	0	R
FORTUNE RR	Secan	O	RR		-2	-1	0	97	93	91	-1	0	0	R
SW 9803	SW Seeds Canada Ltd.	H	RR		-5	-3	0	111	101	101	-3	-2	-1	MR
***B. rapa* compared to AC Sunbeam**														
								7 ST. YR	3 ST. YR					
AC PARKLAND	AAFC	O	CO		2	4		96	82		2	2	0	NA
AC SUNBEAM	AAFC	O	CO		0	0		100	100		0	0	0	NA
ACS-C7	AAFC	S	CO		2	2		96	97		2	3	0	NA
SW SPIRIT RIVER	Peace Pedigreed Seed	O	CO		5	5		97	73		5	2	0	NA

Varietal Kind (H = Hybrid, S = Synthetic, O = Open Pollinated

Herbicide (CO = Conventional, CF = Clearfield, LL = Liberty Link, RR = Roundup Ready)

**ST. YR = Station Year

Additional Information

The Prairie Canola Variety Testing (PCVT) program entered its second year in 2004. The testing system unites the provincial variety testing programs to standardize protocol and improve trial consistency and quality. Now growers can look to a single source of information on how a canola variety performed in three different zones across western Canada. The canola seed industry, Alberta Agriculture, Food and Rural Development, Saskatchewan Agriculture, Food and Rural Revitalization, Manitoba Agriculture Food and Rural Initiatives, Agriculture and Agri-Food Canada and the Canola Council of Canada contributed to the development and operation of the PCVT.

Trials were conducted by seed companies, government researchers and independent contractors in three growing zones across the prairies: short-, mid- and long-season zones (see map). Varietal characteristics appear in the table. **It is important to note that this table represents data collected in one year only (2004).** Site-specific data can be found in the Canola Digest or on the CCC website (http://www.canola-council.org/pod).

Interpreting PCVT information:

1. Use the map to identify your zone of adaptation. For site-specific data please refer to the Canola Digest or the Canola Council of Canada website. Don't limit your search to the areas closest to you. Comparing local results to other locations with similar growing conditions can also be valuable.
2. Zone tables show the actual yield of the Argentine check (46A65) or Polish check (AC Sunbeam) and other variety yields relative to the check. Although variety trials are carefully conducted, small percentage differences (e.g. less than five per cent) in yield are usually insignificant.
3. The table includes information on maturity, resistance to lodging, blackleg resistance, varietal type (open-pollinated, hybrid, synthetic) and herbicide tolerance. Use this information in addition to yield to choose a variety.

Argentine Canola

Argentine varieties mature two weeks later than Polish varieties and are therefore better suited to the mid- and long-season growing areas of Saskatchewan. Blackleg disease, which is now wide spread in Saskatchewan, can cause severe yield losses in varieties that are susceptible (S). Argentine varieties are susceptible to seed shattering when left standing at full maturity. Later maturing varieties tend to produce higher levels of green seed under wet and cool conditions at harvest, which can cause substantial grade reductions. The control of herbicide tolerant canola volunteers requires good agronomic practice such as proper crop and herbicide rotation.

Polish Canola

Polish varieties mature approximately two weeks earlier than Argentine varieties and are therefore less likely to produce green seed. Polish varieties are more heat and drought tolerant than Argentine varieties. They are also more shatter resistant than Argentine varieties and are therefore well suited to straight combining.

Brassica juncea Canola

Brassica juncea canola is a new class of canola that is adapted to the brown and dark brown soil zones (Areas 1 and 2). It has very good resistance to blackleg and exhibits better heat and drought tolerance than other canolas. Juncea canola has shattering resistance similar to Polish canola, and is therefore well suited to straight combining. Currently all production is contracted. The first two varieties, Arid and Amulet, yield approximately 112 per cent of AC Excel (Argentine) in their zone of adaptation. The new variety Dahinda yields about 104% of Arid and Amulet.

The Canola POD

The Canola POD, or Performance On-line Database (http://www.canola-council.org/pod), was developed by the Canola Council of Canada to allow farmers to explore canola performance trial results from a broad range of sources in their own area. In addition to the Prairie Canola Variety Trial results, POD provides access to private seed company performance trial information which often includes more detailed information, such as notes on site management.

Breeding institutions and seed distributors of varieties listed in this publication

Crop kind, class and variety	Breeding institution	Distributor
Wheat		
Bread Wheat		
5500HR	Agripro/Agricore United	Proven Seed
5600 HR	Agripro/Agricore United	Proven Seed
5601HR	Agripro/Agricore United	Proven Seed
5602 HR	Agripro/Agricore United	Proven Seed
AC Abbey	AAFC (Swift Current)	Canterra Seeds
AC Barrie	AAFC (Swift Current)	SeCan Members
CDC Bounty	U of S - CDC	Canterra Seeds
AC Cadillac	AAFC (Swift Current)	Quality Assured Seeds
AC Cora	AAFC (Winnipeg)	SeCan Members
AC Domain	AAFC (Winnipeg)	SeCan Members
AC Eatonia	AAFC (Swift Current)	Proven Seed
AC Elsa	AAFC (Swift Current)	SeCan Members
CDC Go	U of S – CDC	Public
CDC Imagine	U of S – CDC	Sask. Wheat Pool
Infinity	AAFC (Swift Current)	Canterra Seeds
AC Intrepid	AAFC (Swift Current)	Canterra Seeds
Harvest	AAFC (Winnipeg)	Quality Assured Seeds
Journey	Sask. Wheat Pool	Sask. Wheat Pool
Katepwa	AAFC (Winnipeg)	SeCan Members
Laura	AAFC (Swift Current)	SeCan Members
Lillian	AAFC (Swift Current)	SeCan Members
Lovitt	AAFC (Swift Current)	Canterra Seeds
McKenzie	Sask. Wheat Pool	SWP/Proven Seed
CDC Osler	U of S – CDC	Public
Peace	AAFC (Winnipeg)	Canterra Seeds
Prodigy	Sask. Wheat Pool	SWP/Proven Seed
AC Splendor	AAFC (Winnipeg)	SeCan Members
Superb	AAFC (Winnipeg)	SeCan Members
CDC Teal	U of S - CDC	Quality Assured Seeds
Canada Prairie Spring Wheat		
5700PR	Agripro/Agricore United	Proven Seed
5701PR	Agripro/Agricore United	Proven Seed
AC 2000	AAFC (Swift Current)	SeCan Members
AC Crystal	AAFC (Swift Current)	SeCan Members
AC Foremost	AAFC (Swift Current)	SeCan Members
AC Karma	AAFC (Swift Current)	SeCan Members
AC Taber	AAFC (Swift Current)	SeCan Members
AC Vista	AAFC (Swift Current)	Quality Assured Seeds
Canada Western Extra Strong		
Amazon	University of Manitoba	Canterra Seeds
Burnside		Faurschou Farms Ltd.
AC Corinne	AAFC (Winnipeg)	Quality Assured Seeds
AC Glenavon	AAFC (Winnipeg)	SeCan Members
Glenlea	University of Manitoba	Public
CDC Rama	U of S – CDC	Quality Assured Seeds
CDC Walrus	U of S – CDC	Public
Hard White Spring Wheat		
Kanata	AAFC (Winnipeg)	Quality Assured Seeds
Snowbird	AAFC (Winnipeg)	Quality Assured Seeds

AC	Prefix to variety names Agriculture Canada (Agriculture and Agri-Food Canada)
AAFC	Agriculture and Agri-Food Canada
CDC	Crop Development Centre
AAFRD	Alberta Agriculture Food and Rural Development, Lacombe, Alberta
U	University
U of S	University of Saskatchewan, Saskatoon
USDA	United States Department of Agriculture
QAS	Quality Assured Seeds
SWP	Saskatchewan Wheat Pool

Crop kind, class and variety	Breeding institution	Distributor
Durum		
AC Avonlea	AAFC (Swift Current)	Quality Assured Seeds
Commander	AAFC (Swift Current)	
Kyle	AAFC (Swift Current)	SeCan Members
AC Morse	AAFC (Winnipeg)	SeCan Members
AC Napoleon	AAFC (Winnipeg)	Canterra Seeds
AC Navigator	AAFC (Swift Current)	Sask. Wheat Pool
Strongfield	AAFC (Swift Current)	SeCan Members
Soft White Spring Wheat		
AC Andrew		
Bhishaj		Tony Crooymans
AC Nanda	AFFC (Lethbridge)	Quality Assured Seeds
AC Phil	AAFC (Lethbridge)	SeCan Members
AC Reed	AAFC (Lethbridge)	SeCan Members
Winter Wheat		
ACBellatrix	AAFC (Lethbridge)	Quality Assured Seeds
CDC Buteo	U of S – CDC	SeCan Members
CDC Clair	U of S - CDC	SeCan Members
CDC Falcon	U of S - CDC	SeCan Members
CDC Harrier	U of S - CDC	SeCan Members
CDC Kestrel	U of S - CDC	
CDC Osprey	U of S - CDC	Canterra Seeds
CDCRaptor	U of S - CDC	SeCan Members
McClintock	U of M (Winnipeg)	Canterra Seeds
Winter Rye		
Prima	AAFC (Swift Current)	SeCan Members
AC Remington	AAFC (Swift Current)	Proven Seed
AC Rifle	AAFC (Swift Current)	Proven Seed/Canterra
Spring Rye		
Gazelle	U of S	Public
Triticale		
AC Alta	AAFC (Swift Current)	Progressive Seeds
AC Ultima	AAFC (Swift Current)	Quality Assured Seeds
AC Certa	AAFC (Swift Current)	Progressive Seeds
AC Copia	AAFC (Swift Current)	Quality Assured Seeds
Bobcat	AAFRD (Lacombe)	Progressive Seeds
Pika	AAFRD (Lacombe)	Progressive Seeds
Pronghorn	AAFRD (Lacombe)	Progressive Seeds
Sandro	Swiss Fed Ag Res	ProMark Seed
Barley		
Malting		
B1602	Busch Ag. Res.	Sask.Wheat Pool
AC Bountiful	AAFC (Brandon)	Quality Assured Seeds
CDC Battleford	U of S - CDC	SeCan Members
Calder	AAFC (Brandon)	SeCan Members
CDC Copeland	U of S - CDC	SeCan Members
Excel	U of Minnesota	Proven Seed, Others
CDC Kendall	U of S - CDC	Proven Seed/SWP
Harrington	U of S - CDC	SeCan Members
Legacy	Busch Ag Res.	SWP/Proven Seed/QAS
AC Metcalfe	AAFC (Brandon)	SeCan Members
Merit	Busch Ag. Res.	SWP/Proven Seed/QAS
Newdale	AAFC (Brandon)	Quality Assured Seeds
Robust	U of Minnesota	Cargill Seed, Others
CDC Select	U of S - CDC	Proven Seed
CDC Sisler	U of S - CDC	Proven Seed
Stein	U of S - CDC	Proven Seed
CDC Springside	U of S – CDC	Proven Seed
CDC Stratus	U of S - CDC	Quality Assured Seeds
CDC Tisdale	U of S – CDC	Quality Assured Seeds
Tradition	Busch Ag. Res.	SWP/Proven Seed/QAS
CDC Yorkton	U of S - CDC	Canterra Seeds

Crop kind, class and variety	Breeding institution	Distributor
Feed		
CDC Bold	U of S - CDC	Canterra Seeds
CDC Dolly	U of S - CDC	SeCan Members
CDC Earl	U of S - CDC	SeCan Members
CDC Fleet	U of S - CDC	Quality Assured Seeds
AC Harper	AAFC (Lethbridge)	SeCan Members
CDCHelgason	U of S - CDC	SeCan Members
Kasota	AAFRD (Lacombe)	SeCan Members
Lacey	U of Minnesota	ProMark Seed
AC Lacombe	AAFC (Lacombe)	SeCan Members
Mahigan	AAFRD (Lacombe)	SeCan Members
Manny	AAFRD (Lacombe)	SeCan Members
Niska	AAFRD (Lacombe)	Canterra Seeds
Niobe	AAFRD (Lacombe)	SeCan Members
Ponoka	AAFRD (Lacombe)	SeCan Members
Rivers	AAFC (Brandon)	Canterra Seeds
AC Rosser	AAFC (Brandon)	SeCan Members
Vivar	AAFRD (Lacombe)	SeCan Members
Stander	U of Minnesota	Sask. Wheat Pool
CDC Trey	U of S – CDC	Quality Assured Seeds
Trochu	AAFRD (Lacombe)	SeCan Members
Xena	Agricore/W. Plant Breeders	Proven Seed/SWP
Hulless		
AC Bacon	AAFC (Brandon)	SeCan Members
CDC Dawn	U of S - CDC	SeCan Members
CDC Freedom	U of S - CDC	SeCan Members
CDC Gainer	U of S - CDC	Quality Assured Seeds
HB805	W. Plant Breeders	Proven Seed
CDC McGwire	U of S - CDC	SeCan Members
Peregrine	AAFRD (Lacombe)	Progressive Seeds
Tercel	AAFRD (Lacombe)	Progressive Seeds
Hulless Waxy		
CDC Alamo	U of S – CDC	Agricore United
CDC Candle	U of S – CDC	Agricore United
CDC Fibar	U of S – CDC	Agricore United
HB 803		Agricore United
Merlin		Agricore United
CDC Rattan	U of S – CDC	Agricore United
Forage		
Dillon	W. Plant Breeders	Agricore United / SWP
AC Hawkeye	AAFC (Brandon)	Agricore United
AC Ranger	AAFC (Brandon)	Quality Assured Seeds
Westford	W. Plant Breeders	Agricore United / SWP
Oat		
AC Assiniboia	AAFC (Winnipeg)	Proven Seed
CDC Boyer	U of S - CDC	SeCan Members
Boudrias	AAFC (Lacombe)	Quality Assured Seeds
Bullion	Svalof Weibull AB	Proven Seed
Calibre	U of S - CDC	SeCan Members
CDC Dancer	U of S - CDC	QAS / Cargill
Derby	U of S - CDC	Proven Seed
Furlong	AAFC (Winnipeg)	Canterra Seeds / Cargill
AC Gwen	AAFC (Winnipeg)	SeCan Members
Kaufmann	AAFC (Lacombe)	SeCan Members
Lee Williams	AAFC (Lacombe)	Canterra Seeds
Lu	AAFC (Lacombe)	SeCan Members
AC Morgan	AAFC (Lacombe)	SeCan Members
CDC Orrin	U of S - CDC	Quality Assured Seeds
CDC Pacer	U of S - CDC	Quality Assured Seeds
Pinnacle	AAFC (Winnipeg)	Quality Assured Seeds
Ronald	AAFC (Winnipeg)	SeCan Members
CDC Sol-Fi	U of S – CDC	Agricore United
SW Exactor	Svalof Weibull AB	Quality Assured Seeds
Triple Crown	Svalof Weibull AB	ProMark Seed
CDC Baler	U of S - CDC	Quality Assured Seeds
CDC Bell	U of S - CDC	Sask. Wheat Pool
AC Murphy	AAFC (Lacombe)	SeCan Members
Flax		
CDC Arras	U of S – CDC	Quality Assured Seeds
CDC Bethune	U of S – CDC	SeCan Members
AC Carnduff	AAFC (Morden)	SeCan Members
AC Emerson	AAFC (Morden)	SeCan Members
Flanders	U of S - CDC	SeCan Members
Hanley	AAFC (Morden)	SeCan Members
Lightning	AAFC (Morden)	Canterra Seeds
Macbeth	AAFC (Morden)	Proven Seed
AC McDuff	AAFC (Morden)	Proven Seed
CDC Mons	U of S – CDC	Quality Assured Seeds
NorLin	AAFC (Morden)	SeCan Members
CDC Normandy	U of S - CDC	SeCan Members
Prairie Blue	AAFC (Morden)	SeCan Members
Somme	U of S - CDC	SeCan Members
Taurus	Cebeco Zaden	Quality Assured Seeds
CDC Valour	U of S - CDC	SeCan Members
Vimy	U of S - CDC	SeCan Members
AC Watson	AAFC (Morden)	Sask. Wheat Pool
CDC Gold	U of S – CDC	Sask. Wheat Pool
2047	CSIRO/UGG	Proven Seed
2090	CSIRO/UGG	Proven Seed
2126	CSIRO/UGG	Proven Seed
Mustard		
Brown		
commercial		Trade
Duchess	Proven Seed	Proven Seed
Oriental		
Cutlass	AAFC (Saskatoon)	Trade
Forge	Colman's of Norwich	Sask. Wheat Pool
AC Vulcan	AAFC (Saskatoon)	Trade
Yellow		
AC Base	AAFC (Saskatoon)	Trade
AC Pennant	AAFC (Saskatoon)	Trade
Ace		Proven Seed
Andante		Trade
Tilney	Colman's of Norwich	Proven Seed
Viscount	Colman's of Norwich/UGG	Proven Seed
Sunflower		
63A21	Pioneer Hi-Bred	Pioneer Hi-Bred
63A70	Pioneer Hi-Bred	Pioneer Hi-Bred
6111	Interstate Seeds	Advanta Seeds
63M02	Pioneer Hi-Bred	Pioneer Hi-Bred
63M52	Pioneer Hi-Bred	Pioneer Hi-Bred

Breeding institutions and seed distributors of varieties listed in this publication (continued).

Crop kind, class and variety	Breeding institution	Distributor
Field Pea		
40-10	SWS, Germany	Quality Assured Seeds
CDC Acer	U of S – CDC	Sask. Pulse Growers
DS Admiral	Danisco Seeds	Quality Assured Seeds
Alfetta	Cebeco Zaden	Quality Assured Seeds
CDC Bronco	U of S – CDC	Sask. Pulse Growers
CDC Golden	U of S – CDC	Sask. Pulse Growers
SW Belfield	Svalof Weibull AB	Bonis and Company
SW Bravo	Svalof Weibull AB	Canterra Seeds
SW Cabot	Svalof Weibull AB	Canterra Seeds
Camry	Cebeco Zaden	Quality Assured Seeds
SW Capri	Svalof Weibull AB	Canterra Seeds
Carneval	Svalof Weibull AB	Sask. Wheat Pool
SW Carousel	Svalof Weibull AB	SW Seed Canada Ltd
SW Circus	Svalof Weibull AB	SeCan Members
Cooper	Cebeco Zaden	Canterra Seeds
CROMA	Cebeco Zaden	Canterra Seeds
Cruiser	NZ Crop & Food	Canterra Seeds
Cutlass	AAFRD/CDC	Sask. Pulse Growers
Courier	NZ Crop & Food	Canterra Seeds
Delta	Cebeco Zaden	Quality Assured Seeds
Eclipse	Cebeco Zaden	Quality Assured Seeds
Espace	Cebeco Zaden	St. Denis Seeds AB
GRANDE	Svalof Weibull AB	Sask. Wheat Pool
CDC HANDEL	U of S - CDC	Sask. Pulse Growers
Madoc		Terramax
MAJORET	Svalof Weibull AB	SW Seed Canada Ltd
SW Midas	Svalof Weibull AB	Quality Assured Seeds
Millenium	Mansholt	Terramax
Miser	AAFC	Quality Assured Seeds
CDC Minuet	U of S - CDC	Sask. Pulse Growers
CDC Montero	U of S - CDC	Sask. Pulse Growers
CDC MOZART	U of S - CDC	Sask. Pulse Growers
Nessie	Svalof Weibull AB	Quality Assured Seeds
NITOUCHE	DLF Trifolium (Denmark)	Quality Assured Seeds
SW Parade	Svalof Weibull AB	Sask. Wheat Pool
SW Prize	Svalof Weibull AB	Nodricks Norsask Ltd
SW Salute	Svalof Weibull AB	SW Seed Canada Ltd
Scuba	Advanta Seeds	Quality Assured Seeds
CDC Sonata	U of S - CDC	Sask. Pulse Growers
DS Stalwarth	Danisco Seeds	Secan Members
CDC Striker	U of S – CDC	Sask. Pulse Growers
Stratus	Cebeco Zaden	Canterra Seeds
SWING	Cebeco Zaden	Quality Assured Seeds
TOLEDO	Cebeco Zaden	Canterra Seeds
Topeka	Cebeco Zaden	Canterra Seeds
Trapper	AAFC (Morden)	Public
Tudor	Cebeco Zaden	Quality Assured Seeds
Venture	Axel Toft	Johnson Seeds (MB)
Victoria	Svalof Weibull AB	SW Seed Canada Ltd
Whero	Challenge Seeds	SW Seed Canada Ltd
Lentil		
CDC Blaze	U of S - CDC	Sask. Pulse Growers
Crimson	USDA/Washington State U	Public
Eston	U of S - CDC	SeCan Members
CDC Glamis	U of S - CDC	Sask. Pulse Growers
CDC Grandora	U of S - CDC	Sask. Pulse Growers
Laird	U of S - CDC	SeCan Members
CDC LeMay	U of S - CDC	Sask. Pulse Growers
CDC Milestone	U of S - CDC	Sask. Pulse Growers
CDC Plato	U of S - CDC	Sask. Pulse Growers
CDC Redberry	U of S – CDC	Sask. Pulse Growers
CDC Redcap	U of S - CDC	Sask. Pulse Growers
CDC Richlea	U of S - CDC	SeCan Members
CDC Robin	U of S - CDC	Sask. Pulse Growers
CDC Rouleau	U of S – CDC	Sask. Pulse Growers
CDC Sedley	U of S - CDC	Sask. Pulse Growers
CDC Sovereign	U of S - CDC	Sask. Pulse Growers
CDC Vantage	U of S - CDC	Sask. Pulse Growers
CDC Viceroy	U of S – CDC	Sask. Pulse Growers
Faba Bean		
Aladin	University of Manitoba	Public
CDC Blitz	U of S - CDC	
Cresta	Saatbau Linz	Canterra Seeds/Agriprogress Inc.
CDC Fatima	U of S - CDC	R.Legumex/Walker S.
Orion	AAFC (Lacombe)	Roger Lee, Lyster Farm
Outlook	U of S - CDC	SeCan Members
Scirocco	NPZ-Lembke	Agriprogress Inc.
Dry Bean		
AC Polaris		
AC Redbond		
CDC Camino	U of S - CDC	Sask. Pulse Growers
Envoy		
Othello	USDA/ARS (Prosser, WA)	Public
Earliray	Gen-Tec	Gen-Tec
US 1140	USDA	Public
CDC Expresso	U of S - CDC	Canterra Seeds
CDC Jet	U of S – CDC	B&J Martens Seeds
CDC Minto	U of S – CDC	Canterra Seeds
CDC Nighthawk	U of S - CDC	Quality Assured Seeds
CDC Pintium	U of S - CDC	Sask. Pulse Growers
CDC Polar Bear	U of S – CDC	Canterra Seeds
UI 906	University of Idaho	Public
Viva		Public
CDC Whitecap	U of S – CDC	Canterra Seeds
CDC Pinnacle	U of S - CDC	Sask. Pulse Growers
Chickpea		
Desi		
CDC Anna	U of S - CDC	Sask. Pulse Growers
CDC Cabri	U of S – CDC	Sask. Pulse Growers
CDC Desiray	U of S - CDC	Sask. Pulse Growers
Myles	USDA/Washington State U	Public
CDC Nika	U of S - CDC	Sask. Pulse Growers
Kabuli		
Amit (B-90)		Proven Seed
CDC Chico	U of S - CDC	Sask. Pulse Growers
CDC ChiChi	U of S - CDC	Sask. Pulse Growers
CDC Diva	U of S - CDC	Sask. Pulse Growers
Dwelley	USDA/Washington State U	Public
Evans	USDA/Washington State U	Public
CDC Frontier	U of S – CDC	Sask. Pulse Growers
Sanford	USDA/Washington State U	Public
CDC Xena	U of S - CDC	Sask. Pulse Growers
CDC Yuma	U of S - CDC	Sask. Pulse Growers
Canary Seed		
Cantate		
Elias	U of Minnesota; U of S - CDC	Public
Keet	U of Minnesota; U of S - CDC	Public
CDC Maria	U of S - CDC	C. Special Crops
CDC Togo	U of S – CDC	Canterra Seeds
Safflower		
Saffire	AAFC (Lethbridge)	Jerry Kubic (AB)
AC Sunset		AAFC (Lethbridge)
Proven Seed		

Canola – see Canola table VR 20